REMARKS

Claims 42, 47, 48, 50-52, 57-59, 67-68, and 70-71 are pending. The Examiner has inadvertently included claim 42 as claim 142 in the Summary of the Office Action on line 4.

Claims 1-41, 43-46, 49, 53-56, 60-66, and 69 have been previously cancelled.

Claims 42, 47, 48, 50-52, 57-59, 67-68, and 70-71 are rejected in the current Final Office Action.

Prior claims 57-59 were rejected under 35 USC §112 First Paragraph in the current Final Office Action.

Prior claims 67 and 70 were rejected under 35 USC §112 Second paragraph in the current Final Office Action

Prior claims 42, 47-52, 67-68, and 70-71 were rejected under 35 USC § 102(b) as being anticipated by Loeb (US Patent 3,906,250).

Claims 42, 47-48, 50-52, 68, and 71 were rejected under 35 USC § 102(b) or in the alternative under 35 USC § 103(a) as being unpatentable over DE 3121968.

Claims 67 and 70 are hereby cancelled in this response.

Claims 42 and 50 have been amended in this response. Support for the amendments can be found in Figures 1, 4, 6, 7, and 9 and the accompanying description and in particular with reference to the valve structures for example valves 22, 28, 310, and 311 and containers 20 and 30 that are closed and are able to have fluid be put into them via the operation of the above said valves.

Rejection of Claims 67 and 70 under 35 USC § 112 Second Paragraph

By this amendment/response, claims 67 and 70 have been cancelled, thus rendering the rejection of these claims under 35 USC § 112 Second Paragraph moot.

Rejection of Claims 57-59 under 35 USC § 112 First Paragraph

Applicant respectfully traverse this rejection for the following reasons:

Before any analysis of enablement can occur, it is necessary for the Examiner to construe the claims. For terms that are not well-known in the art, or for terms that could have more than one meaning, it is necessary that the Examiner select the definition that he intends to use when examining the application, based on his understanding of what Applicant intends it to mean, and explicitly set forth the meaning of the term and the scope of the claim when writing an Office action. See *Genentech v. Wellcome Foundation,* 29 F.3d 1555, 1563-64, 31 USPQ2d 1161, 1167-68 (Fed. Cir. 1994).

Thus, in order to make an appropriate rejection, the Examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993). The Examiner must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure. Applicant's specification disclosure, which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support.

"As stated by the court, it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement." (see MPEP 2164.04, internal quotations omitted) The examiner should always look for enabled, allowable subject matter and communicate to Applicant what that subject matter is at the earliest point possible in the prosecution of the application.

More specifically, 35 U.S.C. 112 requires the specification to be enabling only to a person "skilled in the art to which it pertains, or with which it is most nearly connected." In general, the pertinent art should be defined in terms of the problem to be solved rather than in terms of the technology area, industry, trade, etc. for which the invention is used.

The specification need not disclose what is well-known to those skilled in the art and preferably omits that which is well-known to those skilled and already available to the public. *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987); and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1463, 221 USPQ 481, 489 (Fed. Cir. 1984). (MPEP 2164.05(a)). The evidence provided by Applicant to rebut the non-enablement rejection need not be conclusive but merely convincing to one skilled in the art.

In particular, the Examiner has rejected claims 57-59 as:

> Claim 57 as amended 3/12/08 recite that the vacuum created in the solvent (first) chamber due to osmosis of solvent from the first chamber to the second chamber is utilized to lower the vapor pressure of a mixture of solvent and solute solution to aid the crystallization of the solute solution upon the application of an external energy source. Upon reading through the entire specification, as originally filed, it is observed that page 18, line 3, - page 9, line 8 and figure 5 provides the closest disclosure to claim 57. Lines 15-17 of page 8 discloses that in the illustrated configuration [by figure 5], the blow down receiving chamber 56, the condenser 57 and the solvent chamber 20 are hermetically joined and the internal space throughout is under vacuum or near the vapor pressure of the solvent. However, figure 5 is grossly inadequate and does not provide any details of how the receiving chamber, the condenser and the first (solvent) chamber are linked together to keep them under vacuum. The closed loop in figure 9 only provides a liquid line from the condenser to the solvent chambers 20 b and c. since this vacuum generated in the solvent chamber by osmosis aiding the crystallization of the solute from the solute solution is an essential part of the claimed invention, the claims are not enabling.

See pages 2 and 3 of the Final Office Action dated March 28, 2008. (italics omitted)

As pointed out above, the specification need not disclose what is well-known to those skilled in the art and preferably omits that which is well-known to those skilled and already available to the public. The connection of two or more chambers to one another using hermetically sealed connection to maintain a closed connection between the chambers is something that is well known. Gas connections that are sealed to avoid leakage of gas in or out have been used in practice for many, many years. As pointed out above, it is not intended that

specification should include standard techniques used to ensure hermetically sealed connections, it is not necessary that each and every detail of well known construction techniques be included. One skilled in the art would understand the need for hermetically sealed connections and would furthermore already know how to connect the chambers together to ensure that the vacuum is applied where it is needed without substantial loss.

Accordingly, the specification, particularly, provides sufficient support for the need to provide hermetically sealed connection such that the internal space throughout is under vacuum. Applicant therefore believes that claims 57-59 comply with the enablement requirement of 35 USC §112 first paragraph.

Rejection of claims 42, 47-48, 50-52, 67-68 and 70-71 under 35 USC §102(b)

Claims 42, 47-48, 50-52, 67-68, and 70-71 have been rejected under 35 USC §102(b) as being anticipated by Loeb (US Patent 3,906,250). Claims 67 and 70 have been cancelled without prejudice rendering their rejection moot. The Examiner alleges that:

> Loeb teaches (see figures) a method of producing energy from a system having a semipermeable barrier separating a pressure chamber and a solvent chamber, wherein the pressure chamber has a solution (sea water) and solvent chamber has a solvent (river water), the solvent flows from the solvent chamber to the pressure chamber across the membrane, and the solvent chamber has a reduced pressure or vacuum (because the pressure is zero atm in figure 3 and 4 in river water chamber, it is also inherent.) See also Figure 11, which is a closed system with the solvent chamber having only inflow, wherein the solvent chamber is at zero pressure. With respect to claim 50, a displacement fo an object such as a piston, is implied in the reference to a piston in column 11, lines 37-59. The solvent chamber is pressurized by pumps. Regarding applied vacuum, see column 11 lines 60-68. Providing energy for a vacuum is implied since one cannot make a vacuum with providing energy for it." See page 4 of the Final Office Action dated March 26, 2008.

The Applicant has amended claims 42 and 50 without the addition of any new subject matter to more clearly define the invention and the Applicant respectfully traverses this rejection. A claim chart is provided as Exhibit A to aid the Examiner in comparing the elements of claims 42 and 50 to the teachings of Loeb.

It is well established in the patent law that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP 2131. Such is clearly not the case in the present claimed invention for the reasons stated below and as seen in the claim chart.

To more clearly support the traverse of this rejection the following material is presented. In a fluid type system, such as Loeb or the German reference energy is added to a fluid system by adding additional fluid volume. Contrary to the cited prior art, Applicant's claimed invention differs from both Loeb and the German reference by increasing the pressure of the fluid contained in a constant volume container. Increasing the pressure of the available fluid is utilized by the claimed invention in order to provide the additional energy to the system.

Loeb adds additional fluid volume to the fluid in the system to add energy to the system. In particular, Loeb adds a volume of river water (solvent) to the pressurized sea water (solute) thus increasing the volume of the solute, albeit by diluting the solute. The sea water is pressurized so that the osmotic pressure is reduced and the flow of river water into the sea water is controlled.

For example, Loeb in column 4 lines 25-27 identifies the various pressures in the Figures. In particular, the "P" in the Figures is identified as hydraulic pressure and π is identified as the osmotic pressure of the fluids in the system. Thus, the hydraulic pressure, P, of the fluid may be zero atm, i.e., there is no hydraulic pressure being exerted on the body of fluid. Contrary to the Examiner's assertion, zero atm hydraulic pressure does not imply a vacuum in the claimed invention. Rather, zero atm means that the fluid is not under any hydraulic pressure, for example the fluid is not being pumped. As is well known in the art, atm is a unit of pressure, i.e., atmospheres, and is not indicative of the atmospheric pressure on the solution, i.e., that zero atm would be equal to a vacuum.

More specifically, and in rebuttal to the Examiner's rejection of the claims, Loeb teaches in column 4, lines 35-44 that: "[t]he volume under a pressure P, will increase on the sea water side 6 (Fig. 2b). ... the energy furnished will exceed the energy (work) originally done on the sea water by a fraction $\Delta V/V$ where ΔV is the volume of permeant (solvent) which has passed

through the membrane and V is the original volume of sea water. The excess mechanical energy is given by P ΔV."

Thus in Loeb, it is the extra volume of solvent added to the solute solution that provides the energy in Loeb and the hydraulic pressure P remains substantially constant. As figures 2a and 2b in Loeb show the hydraulic pressure added, $P<\pi$, allows the solvent, fresh water, to flow into the second chamber, 6, increasing the volume from V m^3 to (V+ ΔV) m^3.

In Loeb, figures 3 and 4 depict a system in which the river water flows in pathway 18 in the opposite direction of the sea water flowing in pathway 16. The river water is able to cross the semipermeable membrane 18 and add volume to the sea water to provide the additional energy necessary to produce electricity via the hydroturbine 17. Hydraulic pressure is applied to the sea water by pump 16 while the river water is maintained at zero hydraulic pressure. See column 5, lines 5-10. In this instance, as discussed above, zero pressure means zero hydraulic pressure on the fluid, i.e., that the river water is allowed to flow freely and is not inhibited by the chamber 18 nor does it have pressure added to it by a pump. Zero pressure does not mean that the fluid flows in a vacuum or near vacuum.

Loeb fails to teach each and every element of the claimed invention. For example, the V-P diagrams shown in Figures 3a and 4a indicate that there is no vacuum produced by the device taught in Loeb. The pressure depicted in the graph is hydraulic pressure and thus, zero pressure is not a vacuum but unpressurized fluid. As Loeb states:

> As one example, 1 cubic meter of sea water (as a basis) at zero atmospheres hydraulic pressure and 25 atmospheres osmotic pressure (Point A in Figs 3 and 3a) is compressed by pump 16 to 10 atmospheres hydraulic pressure (Point B) thus absorbing mechanical energy equal to (1)(10) = 10 cubic meter-atmospheres (m^3 atm) or 0.28 kilowtt hours (KWH) (Area ABEF in FIG 3a). ... The sea water is then pssed through pathway 14 of the PRO apparatus 10 at the hydraulic pressure of 10 atmospheres in counterflow to the river water at zero hydraulic pressure flowing through pathway 18 on the other side of membranes 12. The sea water absorbs 0.6 m^3 of permeant through the membranes. Thus 1.6 m^3 of diluted brine leave the PRO apparatus at a hydraulic pressure of 10 atmospheres (Point C).
>
> As the sea water passes through hydroturbine generator 17, its hydraulic pressure is released to zero (Point D) in the process of

delivering (1.6)(10) = 16 m^3atm or .45 KWH of energy (Area CDEF in FIG 3a).
See Loeb, col. 5 ; lines 19-44

Accordingly, when Loeb is discussing pressure, Loeb is referring to the hydraulic pressure of the fluid and uses atmospheres as the units and zero atmospheres is indicative of unpressurized fluid and not a vacuum that is created by the device as in the claimed invention. Thus, the Applicant's assertion that Loeb fails to teach a vacuum as produced and used in the claimed invention is supported by the specification and figures of Loeb.

Moreover, Loeb fails to teach a sealed container that can be opened and closed as in the claimed invention. The claimed invention indicates that the first and second containers are sealed and that the second container is opened to receive fluid and then closed and sealed again. As taught in Loeb, the containers cannot be sealed and the solute solution and solvent solution must be allowed to flow past one another and through the container. If the container were to be sealed, no additional volume could be added to the fluid in Loeb and Loeb would be rendered inoperable.

The Examiner further asserts that Figure 11 provides support for a closed container. Although the Examiner references FIG. 11, it is actually the description of FIG. 9 that is relevant. In particular, Loeb in column 12, lines 15-20, states: "FIG. 9 illustrates the PRO section 102 (of FIG 8) of the heat engine; FIGS 10-14 (described below) illustrate different arrangements which may be used for the thermal unmixing section 104 (of FIG 8)." Thus, the descriptions at issue are those for FIGS 8 and 9 and not FIG. 11.

The Fig 9 description begins on column 12, linc15 and "[i]llustrates the PRO section 102 (of FIG 8) of the heat engine; FIGS 10-14 (described below) illustrate different arrangements which may be sued for the thermal unmixing section 104 (of FIG 8).

In particular, Loeb teaches:

> A concentrated solution, by which is meant one having a high osmotic pressure (π_{high}), and having a volume of V cubic meters (m^3) is pressurized by pump 122 to a hydraulic pressure P atmospheres (atm) requiring a work input of PV cubic meter atmospheres (m^3 atm), after which it is pumped via line 127 into the high pressure side of the membrane unit 124. Simultaneously a diluted solution, by which is meant one having a low osmotic

pressure, (π_{low}), and having a volume of ΔV m^3 is pumped (by a pump not shown) via line 128 into the low hydraulic pressure side of the membrane unit 124. The diluted solution permeates through the membranes against the hydraulic pressure P because it is arranged that everywhere in the unit $P > \Delta P$ where ΔP is the osmotic pressure difference (atm) between the solutions on each side of the membrane. This is the fundamental principle of pressure-retarded osmosis, as described above.

A volume $(V + \Delta V)$ m^3 of mixed solution is sent to hydroturbine 126 at the pressure P atm. Thus the hydroturbine delivers P $(V + \Delta V)$ m^3 atm of work (via connection 129) in the course of reducing the pressure of the mixed solution of zero. The net output of work is equal to the difference between the output from the hydroturbine and the input to the pump, i.e., the net work is $(P \Delta V)(m^3)$ atm.

It is important to understand that net work is obtained only from ΔV the volume of permeant liquid passing through the membranes. In order to minimize the size of the membrane unit it may be stated as a first guideline:

Guideline 1: the ratio should be maximized of net work delivered to volume of liquid passed through the membranes.

See Loeb, col. 12, lines 15-57.

It is clear that in Loeb, the diluted solute fluid is continuously flowing through the system in order to continuously turn the hydro-turbine 17. It is also clear that the additional volume added to the solute solution provided by the continuously flowing solvent solution that passes through the semipermable barrier into the solute solution provides the additional energy needed to produce useful work.

The claimed invention does not rely upon additional volume of the solvent being added to the solute solution to provide the energy to operate the system. Rather, as discussed above, energy may be added to a system by increasing the pressure of the system, wherein the volume stays substantially constant. This is the method that the claimed invention relies upon.

As claimed in amended claims 42 and 50: the second chamber is initially closed and opened to add fluid to it then closed again and reopened to remove a portion of the dilute solution that is used to move the member in the claimed invention. In particular, the claimed invention calls for: "periodically opening the second chamber and removing a portion of the

diluted solute solution from the second chamber and using the increased pressure of the removed portion to drive a member which produces a movement from which work can be extracted." It is the high pressure of the removed portion of the diluted solute solution that is used to drive the member to produce work. In contrast to the claimed invention, Loeb uses substantially all of the fluid moving in pathway 124 across the membrane in pressure unit 124 and mixing with the pressurized concentrated solution in pathway 127 to ultimately turn hydroturbine 126. Thus, Loeb does not teach removing only a portion of the fluid to do work as claimed in the claimed invention. Rather, Loeb teaches to use all of the volume of fluid present in stark contrast to the claimed invention.

In addition, unlike the claimed invention, Loeb teaches a continuously operating system, that is fluid is constantly and continuously flowing through the Loeb system in order to provide continuous power to the hydroturbine so that the hydroturbine continuously operate and provide continuous energy. The claimed invention is one in which a portion of the dilute solute solution is only periodically removed from the second chamber. Thus, in the claimed invention, power is provided and the movement of the member occurs in discrete pulses, i.e., periodically, rather than continuously provided due to the constant flow of fluid through the Loeb system.

Applicant respectfully states that for the reasons stated above, independent claims 42 and 50 as amended are patentably distinct over Loeb. Claims 47-48, and claim 68 depend from claim 42 and are patentable for at least the same reasons. Claims 51-52 and 71 depend from claim 50 and are patentable for at least the same reasons. Thus, none of the claims are anticipated by Loeb for the reasons stated above and all claims are therefore patentable over the Loeb reference. Further, based upon the above arguments the use of the Loeb reference under 35 USC § 103 would also be inappropriate. Applicant respectfully requests allowance of all claims.

Rejection of Claims 42, 47-48, 50-52, 68, and 71 under 35 USC §102 or in the alternative 35 USC §103(a)

Claims 42, 47, 48, 50-52, 68, and 71 are rejected under 35 USC §102 or alternatively under 35 USC §103(a) as being anticipated or obvious over DE 3121968 ("the German reference"). The Examiner asserts that:

DE teaches a method of pressurizing a solute solution and converting the pressure to energy (by a turbine or by a reciprocating machine, which is a piston machine: see claim 22, page 8 and 28, page 9 of the English translation of the reference: piston in the reciprocating machine has linear displacement) using a solvent by passing the solvent across into the solution through a semipermeable membrane – see figures. The solution is exhausted after the pressure is converted to energy as claimed. Solvent chamber pressure reduces due to loss of solvent by osmosis, which would inherently create a loss of pressure, or vacuum,. The solvent chamber is pressurized by a pump - see figure 1, pump 22.

DE teaches solvent recycle; and the process of evaporation can be optimally selected from the various available methods - see page 16-20 of the English translation (especially, page 18) - including air circulation, heat pump, and solar energy. Using vacuum for evaporation, particularly at ambient temperature, is known in the art. Even though the reference does not explicitly teach a third chamber, it is implied in terms of evaporation ponds or evaporators and condenser required in the various recycling schemes contemplated by the reference, which include both solvent and concentrated solute solution.

See page 5 of the Final Office Action dated March 28, 2008.

The Applicant respectfully traverses this rejection.

As pointed out above, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP 2131. Such is clearly not the case in the present claimed invention for the German reference fails to teach all of the limitations in the Applicant's claims, the Applicant believes that claims 42, 47-48, 50-52, 68, and 71 are not anticipated by the German Reference.

It is apparent that the German reference functions in a substantially similar way to the inappropriate Loeb reference. In particular, as stated in the Abstract: "A system serving to implement this method comprises at least one reaction vessel (13)[the element number is actually 3], which is divided into two sectional chambers (5, 6) by means of a semi-permeable dividing wall (4). The fluid with the higher concentration flows through the one sectional chamber and the fluid with the lower concentration through the other sectional chamber."

Thus, the German reference, like Loeb, also uses two continuously flowing fluids that are adjacent to one another and separated by a semi-permeable membrane. As the two fluids are

adjacent to the semi-permeable membrane, the solvent will flow across the membrane into the solute, wherein the solute is the used to provide energy. Accordingly, the German reference also suffers from the same deficiencies outlined above with respect to the Loeb reference and the arguments with respect to the Loeb reference are incorporated herein by reference against the German reference. As with the Loeb reference, the claimed invention calls for the periodic opening of the initially closed and sealed second chamber to "periodically opening the second chamber and removing a portion of the diluted solute solution from the second chamber and using the increased pressure of the removed portion to drive a member which produces a movement from which work can be extracted." Again, this is neither disclosed, shown, taught nor suggested in the German reference.

In addition, the German reference fails to disclose, show, teach or suggest at least four aspects of claims 42 and 50. In particular, the German reference fails to disclose, teach or suggest: 1) a closed solvent and solute chamber; 2) provide a third chamber for receiving a portion of the solute fluid; 3) applying energy to the portion of the solute solution contained in the third chamber for vaporizing the solute solution thereby separating the solute from the solvent; and 4) recycling the separated solute solution to the second chamber.

The German reference teaches only that the reaction chamber (3) [Note that the abstract has mislabeled the reaction vessel as 13] has fresh water pumped into the chamber by pump 22 via line 16 and allowed to leave by line 17, see the abstract and Fig. 1. Note that there are no valves depicted so that the flow is not interrupted and is continuous. Also note that there are no pumps in the fresh water line as well so that the fresh water is at substantially zero hydraulic pressure. In the description of the specification, the solute and solvent solutions are taught to flow past one another through the reaction chamber 3. There is no mention of closing or sealing the solvent side of the reaction chamber 3 or of periodically opening the reaction vessel as in the claimed invention. None of the figures or descriptions teach the use of a sealed solvent chamber that is initially closed and is periodically opened to remove a portion of the diluted solute solution as in the claimed invention.

Accordingly, claims 42 and 50 include elements that are not disclosed, shown, nor taught by the German reference and therefore are not anticipated by the German reference under 35 USC § 102(b). Claims 47, 48, and claim 68 depend from claim 42 and are patentable for at least

the same reasons. Claims 51-52 and 71 depend from claim 50 and are patentable for at least the same reasons. Thus, none of the claims are anticipated by the German reference for the reasons stated above and all claims are therefore patentable over the German reference.

With respect to the 35 USC § 103(a) rejection, "To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." (MPEP 2143)

Because the operation of the German reference is based on the continuous flow of fresh water, at essentially zero hydraulic pressure, through side 5 of the reaction vessel 3, a closed solvent side of the reaction chamber would prevent the continuous flow of water as taught by the German reference. In addition, in the various figures in the German reference there is no storage tank or other method of regulating or storing the fresh water flowing in the system. Because there is no teaching as to storage of the fresh water in a chamber as a substitute for the continuously pumped fresh water, it is clear to one of skill in the art that continuously pumping water into a closed chamber, as claimed in the invention would change the operation of the German reference by providing fresh water at higher than zero hydraulic pressure at the semi-permeable barrier between chambers 5 and 6 in the German reference. Because the German reference is also a pressure retarded system, as is Loeb, this increase in the fresh water pressure would reduce the retarding pressure and change the operational characteristics of the German reference, causing the device taught by the German reference to produce substantially less power and even rendering the German reference inoperable. Thus, there would be no motivation to modify the German reference to use a sealed a solvent chamber as claimed in independent claims 42 and 50, let alone add the many deficiencies of the German reference as claimed by Applicant and set forth in detail above.

Further, it would not be obvious to modify the German reference to form the claimed invention because the German reference would become inoperable. The German reference fails to discuss the use of a third chamber at al for any purpose much less recycling. In addition, the German reference fails to discuss the use of adding energy to the used solute solution to recycle

the solute solution. As discussed above, the further dilution of the solute discharged via line 9 and the solvent solution discharged via line 17 a great deal more energy would need to be added to the system. Thus, to provide a recycling system to the highly diluted solute solution would cause the apparatus taught in the German reference to become inoperative for the intended purpose of the German reference. Thus, rendering the German reference inoperable and would negate any motivation to modify the German reference to include a third chamber for recycling purposes, clearly making such changes non-obvious under 35 USC § 103.

Since the German reference does not teach or suggest all the limitations of independent claims 42 and 50, Applicant respectfully states that a prima facie case of obviousness has not been established and that claims 42 and 50 are patentable over the German reference. Claims 47, 48, and 68 depend from claim 42 and are patentable for at least the same reasons as claim 42. Claims 51, 52, and 71 depend from claim 50 and are patentable for at least the same reasons as claim 50. Therefore the Applicant asserts that all claims are now in condition for allowance and requests that the Examiner pass all claims to issue.

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Conclusion

Applicants have made a diligent effort to place the claims in condition for allowance or in a better form for an appeal. In the event that the Examiner is would like to expedite the resolution of this case, it is respectfully requested that the Examiner telephone Thomas Grodt Applicant's agent at (617) 345-3253 so that any unresolved issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, all claims in this application are now considered to be in condition for allowance and such action is earnestly solicited.

There are no additional fees required, however, the Director of Patents and Trademarks is authorized to charge any fee deficiencies, or to credit any overpayments, to Deposit Account No. 03-2410, Order No. 41613-101.

In accordance with Section 714.01 of the M.P.E.P., the following information is presented in the event that a call may be deemed desirable by the Examiner:

THOMAS GRODT(617) 345-3000.

Respectfully Submitted,
Irving DeVoe, Applicant

Date: May 14, 2008

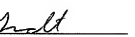

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EXHIBIT A

CLAIM CHART FOR CLAIMS 42 AND 50	LOEB REFEFRENCE
42. A method of producing energy, comprising:	
providing a sealed first chamber;	Not described, shown, or taught in Loeb
providing a sealed and initially closed second chamber;	Not described, shown, or taught in Loeb
providing a semi-permeable barrier separating the first chamber from the second chamber;	Described, shown, or taught in Loeb, See Figs. 1,2,3,4,5,6,7,8,9
filling the first chamber with a solvent;	Described, shown, or taught in Loeb
opening said initially closed second chamber and filling the second chamber with a solute solution comprising a solute and solvent;	Not described, shown, or taught in Loeb
closing said second chamber	Not described, shown, or taught in Loeb
providing communication between the solvent solution and solute solution to cause the solvent to flow from the first chamber through the semi-permeable barrier into the second chamber forming a diluted solute solution,	Described, shown, or taught in Loeb
utilizing the semi-permeable barrier to restrict solute from flowing into the first chamber while allowing the solvent to flow into the second chamber ;as the solvent flows from the first chamber into the second chamber a void is created in the first chamber such that a vacuum develops in the first chamber and increases the pressure in the diluted solute solution in the second chamber;	Vacuum in solvent chamber is not described, shown, or taught in Loeb

periodically opening the second chamber and removing a portion of the diluted solute solution from the second chamber and using the increased pressure of the removed portion to drive a member which produces a movement from which work can be extracted;	Not described, shown, or taught in Loeb. Loeb is a continuously flowing system and does not periodically remove the increased pressure, rather Loeb removes the increased volume
transferring the removed portion of the diluted solute solution into a third chamber;	Described, shown, or taught in Loeb
applying energy to the removed portion of the diluted solute solution in the third chamber thereby vaporizing the solvent contained in the removed portion of the diluted solute solution and thereby separating the solute in the removed portion of the solute solution;	Described, shown, or taught in Loeb
recycling the separated solute to the second chamber	Described, shown, or taught in Loeb

50. A method of producing energy, comprising:	
providing a sealed first chamber;	Not described, shown, or taught in Loeb
providing a sealed second chamber that is initially closed;	Not described, shown, or taught in Loeb
providing a semi-permeable barrier separating the first chamber from the second chamber;	Described, shown, or taught in Loeb, See Figs. 1,2,3,4,5,6,7,8,9
opening said initially closed second chamber and filling the second chamber with a solute solution filling the first chamber with a solvent;	Not described, shown, or taught in Loeb
closing said second chamber	Not described, shown, or taught in Loeb
providing communication between the solvent solution and solute solution to cause the solvent to flow from the first chamber through the semi-permeable barrier into the second chamber forming a diluted solute solution ;,	Described, shown, or taught in Loeb
utilizing the semi-permeable barrier to restrict solute from flowing into the first chamber while allowing the solvent to flow into the second chamber ;as the solvent flows from the first chamber into the second chamber a void is created in the first chamber such that a vacuum develops in the first chamber and increases the pressure in the second chamber;	Vacuum in solvent chamber is not described, shown, or taught in Loeb
periodically opening the second chamber and removing the a portion of the diluted solute solution and using the increased pressure of the	Not described, shown, or taught in Loeb. Loeb is a continuously flowing system and does not periodically remove the increased

diluted solute solution to drive a member which produces a substantial linear displacement of the member;	pressure, rather Loeb removes the increased volume
transferring the removed portion of the diluted solute solution to a third chamber;	Described, shown, or taught in Loeb
applying energy to the removed portion of the diluted solute solution in the third chamber thereby vaporizing the solvent contained in the removed portion of the diluted solute solution thereby separating the solute in the removed portion of the diluted solute solution;	Described, shown, or taught in Loeb
recycling the separated solute to the second chamber	Described, shown, or taught in Loeb